

Safety Attribute Inspection (SAI) Data Collection Tool
1.3.18 De-Icing Program (AW)
Revision#:3 Revision Date:09/15/2009

ELEMENT SUMMARY INFORMATION

Scope of Element:

Purpose (operator's responsibility): Develop and use a De-icing Program preventing the dispatch or release of an aircraft with known icing, frost, or snow condition.

Objective (FAA oversight responsibility): To determine if the operator's De-icing Program:

- Meets all applicable requirements of Title 14 of the Code of the Federal Regulations (14 CFR) and FAA policies,
- Incorporates the safety attributes, and
- Identifies any shortfalls in the operator's De-icing Program.

Specific Instructions:

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SUPPLEMENTAL INFORMATION

Regulatory Requirements:

119.43, Certificate holder's duty to maintain operations specifications.
121.135, Manual contents
121.373, Continuing analysis and surveillance.
121.629, Operation in icing conditions.

Related CFRs & FAA Policy/Guidance:

Related CFRs:

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FAA Policy/Guidance:

FAA Order 8900.1, Volume 6, Chapter 2, Section 15
Notice 8900.55, FAA Approved Deicing Program Updates, Winter 2008-2009
AC 120-60B, Ground Deicing and Anti-Icing Program

SAI SECTION 1 - PROCEDURES ATTRIBUTE

Objective:

The questions in this section of the SAI will help verify that the operator's documented procedures identify who, what, when, where, and how those procedures are accomplished. These procedures must allow all personnel to perform their duties and responsibilities with a high degree of safety.

14 CFR part 121.135(a)(1)

Tasks

	The inspector shall accomplish the following tasks:
1	Review the information in the Supplemental Information section of this SAI.
2	Review the duties and responsibilities for management and other personnel who accomplish the processes associated with this element.
3	Review the documentation of the processes associated with this element.

Questions

1.1	<p>Do procedures describe in detail how to determine that ground deicing/anti-icing operational procedures must be in effect?</p> <p>Note(s): <i>These procedures must include the determination that existing conditions may reasonably be expected to allow frost, ice, or snow to adhere to the aircraft.</i></p> <p>Updated: Rev # 3 on 09/15/2009 SRRs: 121.629(c)(1)(i) Kind Of Question: Flag, Supplemental, Domestic</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.2	<p>Do procedures identify who is responsible for deciding that ground deicing/anti-icing operational procedures must be in effect?</p> <p>Updated: Rev # 3 on 09/15/2009 SRRs: 121.629(c)(1)(ii) Kind Of Question: Flag, Supplemental, Domestic</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.3	<p>Do procedures provide a detailed description for implementing ground deicing/anti-icing operational procedures?</p> <p>Updated: Rev # 3 on 09/15/2009 SRRs: 121.629(c)(1)(iii) Kind Of Question: Flag, Supplemental, Domestic</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.4	<p>Do procedures identify the specific duties and responsibilities of each operational position or group responsible for getting the aircraft safely airborne while ground deicing/anti-icing operational procedures are in effect?</p> <p>Updated: Rev # 3 on 09/15/2009 SRRs: 121.629(c)(1)(iv) Kind Of Question: Flag, Supplemental, Domestic</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.5	<p>Does the program provide de-icing/anti-icing initial and annual recurrent ground training, testing for flight crewmembers, and qualifications for all other affected</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

	<p>personnel?</p> <p>Note(s): <i>The training topics must address:</i></p> <ul style="list-style-type: none"> • <i>Hold over times,</i> • <i>Aircraft ground deicing/anti-icing procedures,</i> • <i>Inspection procedures, check procedures and responsibilities,</i> • <i>Communications procedures,</i> • <i>Identification of aircraft surface contamination and critical areas,</i> • <i>How contamination adversely affects aircraft performance and flight characteristics,</i> • <i>Types and characteristics of deicing/anti-icing fluids,</i> • <i>Cold weather preflight inspection procedures,</i> • <i>Techniques for recognizing contamination on the aircraft.</i> <p>Updated: Rev # 3 on 09/15/2009 SRRs: 121.629(c)(2) Kind Of Question: Flag, Supplemental, Domestic</p>	
1.6	<p>Do procedures provide applicable holdover timetables and instructions?</p> <p>Note(s): <i>The holdover times must be supported by data acceptable to the Administrator.</i></p> <p><i>The program must include procedures for flight crewmembers to increase or decrease holdover time in changing conditions.</i></p> <p>Updated: Rev # 3 on 09/15/2009 SRRs: 121.629(c)(3) Kind Of Question: Flag, Supplemental, Domestic</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.7	<p>Does the program provide instructions and information on how to determine that conditions allow an aircraft to takeoff after exceeding any maximum holdover time?</p> <p>Note(s): <i>The program must explain how to determine that the wings, control surfaces, and other critical surfaces are free of frost, ice, or snow, (pre-takeoff contamination check or alternate procedure approved by the administrator).</i></p> <p>Updated: Rev # 3 on 09/15/2009 SRRs: 121.629(c)(3) Kind Of Question: Flag, Supplemental, Domestic</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.8	<p>Does the program provide procedures and responsibilities for:</p> <ul style="list-style-type: none"> • Aircraft deicing/anti-icing, • Pre-takeoff checks, • Pre-takeoff contamination checks? <p>Updated: Rev # 3 on 09/15/2009 SRRs: 121.135(b)(2); 121.629(c)(4) Kind Of Question: Flag, Supplemental, Domestic</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.9	Do procedures address the intent of the guidance contained in Annual Notice	<input type="checkbox"/> Yes

	8900.55? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable
1.10	Do procedures address the intent of the guidance contained in Order 8900.1, Volume 6, Chapter 2, Section 15? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable
1.11	Do procedures address the intent of the guidance contained in Advisory Circular 120-60B? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable
1.12	Does the manual include a requirement to comply with the Operations Specification related to this element including clearly identified excerpts, references, mandatory compliance requirements, or other information that will keep employees informed of the impact on their duties and responsibilities? Updated: Rev # 3 on 09/15/2009 SRRs: 119.43(b); 121.135(a)(4) Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.13	Does the manual contain policies and procedures that include the duties and responsibilities for personnel involved with this element? Note(s): <i>This includes personnel, in addition to those required by 14 CFR part 119, who have authority and responsibility for processes covered by this element.</i> Updated: Rev # 3 on 09/15/2009 SRRs: 121.135(b)(2) Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.14	Does the manual refer to the appropriate sections of 14 CFR, and are the procedures consistent with the appropriate 14 CFR references or Operating Certificate concerning this element? Note(s): <i>Procedures for Flag and Supplemental operations must be consistent with applicable foreign regulations as well.</i> Updated: Rev # 3 on 09/15/2009 SRRs: 121.135(a)(4); 121.135(b)(3) Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.15	Does the manual contain general policies that require compliance with the SRRs? Updated: Rev # 3 on 09/15/2009 SRRs: 121.135(b)(1) Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

SAI SECTION 1 - PROCEDURES ATTRIBUTE	
Drop-Down Menu	
1.	No policy, procedures, instructions, or information specified.
2.	Procedures or instructions and information do not identify who, what, when, where, how.
3.	Policy, procedures, or instructions and information do not comply with CFR.
4.	Policy, procedures, or instructions and information do not comply with FAA policy and guidance.
5.	Policy, procedures, or instructions and information do not comply with other documentation (e.g., manufacturer's data, Jeppesen Charts, etc.).
6.	Policy, procedures, or instructions and information unclear or incomplete.
7.	Documentation quality (e.g., unreadable or illegible).
8.	Policy, procedures, or instructions and information inconsistent across certificate holder manuals (FOM - Flight Operations Manual to GMM - General Maintenance Manual, etc.).
9.	Policy, procedures, or instructions and information inconsistent across media (e.g., paper, microfiche, electronic).
10.	Resource requirements incomplete (personnel, facilities, equipment, technical data).
11.	Other.

SAI SECTION 2 - CONTROLS ATTRIBUTE	
Objective: The questions in this section of the SAI will help determine if controls (i.e. checks and restraints) are designed into the processes associated with this element to ensure policies and procedures are followed to achieve desired results.	
Tasks The inspector shall accomplish the following tasks:	
1	Review the policies, procedures, instructions, and information to understand the controls associated with this element.

Questions		
2.1	Are controls in place to ensure that the operator and/or its vendors properly deice/anti-ice the aircraft prior to takeoff, preventing it from taking off with frost, ice, or snow adhering to the wings, control surfaces, propellers (if applicable), engine inlets, or other critical surfaces? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
2.2	Are controls in place to ensure that the operator's personnel are adequately trained and qualified in its De-Icing Program? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
2.3	Are controls in place to ensure that the operator uses adequate storage facilities and dispensing equipment to conduct operations in icing conditions? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
2.4	Does the certificate holder have a documented method for assessing the impact of any changes made to the controls in the De-Icing Program? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

SAI SECTION 2 - CONTROLS ATTRIBUTE	
Drop-Down Menu	
1.	No controls specified.
2.	Documentation for the controls do not identify who, what, when, where, how.
3.	Controls incomplete.
4.	Controls could be circumvented.
5.	Controls could be unenforceable.
6.	Resource requirements incomplete (personnel, facilities, equipment, technical data).
7.	Other.

SAI SECTION 3 - PROCESS MEASUREMENT ATTRIBUTE

Objective:

Process measurements ensure the operator uses an internal evaluation function to detect, identify, and eliminate or control hazards and the associated risk. For airworthiness elements this is a required function of an operator's Continuing Analysis and Surveillance System (CASS), required by 14 CFR part 121.373. The director of safety and the quality assurance department often work together to accomplish this function for the operator. Negative findings could require amendments to the safety/internal evaluation program or CASS audit forms or checklists.

Tasks

	The inspector shall accomplish the following tasks:
1	Review the control questions in Section 2 of this SAI.
2	Review the operator's policies, procedures, instructions, and information to gain an understanding of the process measurements accomplished for this element.

Questions

3.1	<p>Are there process measurements that evaluate whether the operator's policies, procedures, and controls are achieving the desired results?</p> <p>Note(s): <i>Inspectors should refer to the controls in section 2 of this SAI for possible process measurements for this element.</i></p> <p><i>Persons engaged in this process should have a method for identifying undesired results.</i></p> <p>Updated: Rev # 3 on 09/15/2009 SRRs: 121.373 Kind Of Question: Flag, Supplemental, Domestic</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
3.2	<p>Do the operator's process measurements assess the performance of the processes associated with this element?</p> <p>Note(s): <i>Verify audits exist to measure this elements performance.</i></p> <p><i>Verify audits are scheduled for this element.</i></p> <p><i>Verify audits ensure everyone, including all outsource providers; comply with the operator's program, manual and all applicable regulations and statutes.</i></p> <p>Updated: Rev # 3 on 09/15/2009 SRRs: 121.373 Kind Of Question: Flag, Supplemental, Domestic</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
3.3	<p>Does the operator's program require the documentation of process measurement results?</p> <p>Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

3.4	Does the operator's program describe how the process measurement results are used to improve the ability to achieve the desired results? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
3.5	Does the organization that conducts the process measurements have direct access to the person with responsibility for this element? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

SAI SECTION 3 - PROCESS MEASUREMENT ATTRIBUTE Drop-Down Menu	
1.	No process measurements specified.
2.	Documentation for the process measurements does not identify (who, what, when, where, how).
3.	Inability to identify negative findings.
4.	No provisions for implementing corrective actions.
5.	Ineffective follow-up to determine effectiveness of corrective actions.
6.	Resources requirements (personnel, facilities, equipment, technical data).
7.	Other.

SAI SECTION 4 - INTERFACES ATTRIBUTE

Objective:

Data collected in this section helps determine if the operator manages the interfaces (i.e. interactions) associated with this element. Interfaces occur in a procedure where the responsibility for accomplishing work is transferred from one person, work group, or organization to another. Procedures must be detailed enough to ensure the smooth transfer of work and information.

Tasks

	The inspector shall accomplish the following tasks:
1	Review interfaces associated with the processes for this element.

Questions

4.1	Where interfaces exist in this element, are the procedures written in enough detail to preclude a breakdown or discontinuity in the activity? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
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SAI SECTION 4 - INTERFACES ATTRIBUTE

Drop-Down Menu

1.	No interfaces specified.
2.	The following interfaces not identified within the certificate holder's manual system:
3.	Interfaces listed are inaccurate.
4.	Specific location of interfaces not identified within the manual system.
5.	Other

SAI SECTION 5 - MANAGEMENT RESPONSIBILITY & AUTHORITY ATTRIBUTE	
Objective: Data from questions in this section will help the determine if there is an identifiable, qualified (when required by CFR), and knowledgeable person who is: <ul style="list-style-type: none"> • Responsible for the process, • Answerable for the quality of the process, and • Has the authority to establish and modify the process. 	
Tasks	
	The inspector shall accomplish the following tasks:
1	Identify the person(s) who has overall responsibility for this element.
2	Identify the person(s) who has the authority to revise the procedures associated with this element.
3	Review the duties and responsibilities of the above person(s).
4	Review the appropriate organizational chart.

Questions		
5.1	Is an individual(s) identified who is responsible for the quality of the procedures associated with this element? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
5.2	Is an individual(s) identified who has the authority to establish and modify the policies, procedures, instructions, and information associated with this element? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
5.3	Are duties and responsibilities documented for those who manage the procedures associated with this element? Updated: Rev # 3 on 09/15/2009 SRRs: 121.135(b)(2) Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
5.4	Does the operator document the procedures for delegation of authority for this element? Updated: Rev # 3 on 09/15/2009 Kind Of Question: Flag, Supplemental, Domestic	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

SAI SECTION 5 - MANAGEMENT RESPONSIBILITY & AUTHORITY ATTRIBUTE Drop-Down Menu	
1.	Not documented.
2.	Documentation unclear.

3.	Documentation incomplete.
4.	Other.